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Education and Work, Australia methodology

Reference period May 2020

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Overview

The [Survey of Education and Work \(SEW\)](#) ([/statistics/people/education/education-and-work-australia/latest-release](#)) is conducted throughout Australia in May as a supplement to the monthly Labour Force Survey (LFS).

The SEW provides annual information on a range of key indicators of educational participation and attainment of people aged 15-74 years, along with data on their engagement in education and work.

The annual time series allows for ongoing monitoring of the level of education of Australia's population including:

- current and previous study;

- type of educational institution attended;
- highest year of school completed;
- level and field of highest non-school qualification;
- engagement in education and work; and
- selected characteristics of apprentices and trainees.

The publication [Labour Force, Australia \(/statistics/labour/employment-and-unemployment/labour-force-australia/latest-release\)](#) contains information about survey design, sample redesign, scope, coverage and population benchmarks relevant to the monthly LFS, which also apply to supplementary surveys such as the SEW. It also contains definitions of demographic and labour force characteristics.

Concepts, sources, and methods

The conceptual framework used in Australia's LFS aligns closely with the standards and guidelines set out in Resolutions of the International Conference of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force statistics, and the sources and methods used in compiling these estimates, are presented in [Labour Statistics: Concepts, Sources and Methods, Feb 2018 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6102.0.55.001\)](#).

In July 2014, the LFS survey questionnaire underwent a number of developments. For further information see [Questionnaires used in the Labour Force Survey \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6232.0Main+Features1July%202014?OpenDocument\)](#) . ([https://www.abs.gov.au/research/labour/questionnaires-used-labour-force-survey](#))

How the data is collected

Collection method

Information was collected from respondents over a two week period in May.

The data were collected through interviews, conducted either:

- face-to-face
- over the telephone, or
- respondents were able to provide their information over the internet via a self-completed form.

All information in the survey was obtained from any person in the household aged 15 years or over (known as Any Responsible Adult (ARA)) who was asked to respond on behalf of all people in the household in scope of the survey. If the ARA was unable to supply all of the

details for another individual in the household, a personal interview was conducted with that particular individual.

As estimates are based on information collected in May of the survey year, due to seasonal factors (such as school terms, semesters, or intake periods for other qualifications), they may not be representative of other months of the year.

The May 2020 SEW was enumerated during the COVID-19 period. In May, the proportion of fully responding households to the Monthly Population Survey (MPS) was lower than usual (83%). This resulted in 36,597 completed interviews for SEW. See [Labour Force, Australia, May 2020 \(https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia/may-2020\)](https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia/may-2020) for more information on the impact of COVID-19 on the MPS.

Scope

The scope of the SEW is restricted to people aged 15-74 years and excludes the following:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from the Census of Population and Housing and estimated resident populations;
- overseas residents in Australia (intending to stay less than 12 months);
- members of non-Australian defence forces (and their dependants);
- people in institutionalised special dwellings (e.g. patients in hospitals, residents of retirement homes, residents of homes for people with disabilities, inmates of prisons);
- Indigenous communities; and
- boarding school pupils.

Boarding school pupils have been excluded from the scope of the SEW since 2005, but were included in earlier collections.

Since 2009, SEW has included people living in 'very remote' areas who are not in Indigenous Communities. Prior to SEW 2009, all people living in 'very remote' parts of Australia were excluded. Nationally, less than 1% of people in scope of SEW live in 'very remote' areas that are not Indigenous Communities. In the Northern Territory, this proportion is higher, at around 8%.

In 2013, the scope of SEW was extended to include all people aged 65-74 years for the first time. From 2009 to 2012, people aged 65-74 years who were in the labour force, or were marginally attached to the labour force were included.

Persons who are permanently unable to work were included in the scope of SEW for the first time in 2013.

Coverage

In the LFS, coverage rules are applied which aim to ensure that each person is associated with only one dwelling and has only one chance of selection in the survey. See [Labour Force, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0) for more details.

Data from the SEW is available by State, Greater Capital City Statistical Area, Section of State, Remoteness area and Statistical Area Level 4, subject to confidentiality constraints. Geography has been classified according to the Australian Statistical Geography Standard (ASGS), July 2016. For a list of these publications see the [ABS Geography Publications \(https://www.abs.gov.au/websitedbs/D3310114.nsf/home/ABS+Geography+Publications\)](https://www.abs.gov.au/websitedbs/D3310114.nsf/home/ABS+Geography+Publications) page.

How the data is processed

As only a sample of people were surveyed, their results needed to be converted into estimates for the whole population. This was done with a process called weighting.

Each person was given a number (known as a weight) to reflect how many people they represented in the whole population.

A person's initial weight was based on their probability of being selected in the sample. For example, if the probability of a person being selected in the survey was 1 in 300, then the person would have an initial weight of 300 (that is, they represent 300 people).

After calculating the initial person weights, an adjustment was incorporated into the weighting for persons to account for all persons in the population.

The person weights were separately calibrated to independent estimates of the in scope population, referred to as 'benchmarks'. The benchmarks used additional information about the population to ensure that:

- people in the sample represented people who were similar to them
- the survey estimates reflected the distribution of the whole population, not the sample.

The survey was benchmarked to the estimated resident population (ERP) aged 15-74 years living in private dwellings and non-institutionalised special dwellings in each state and territory. People living in Indigenous communities were excluded.

Key education concepts

Australian Standard Classification of Education (ASCED)

Education data are coded to the [Australian Standard Classification of Education, 2001](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0>). The ASCED is a national standard classification which can be applied to all sectors of the Australian education system, including schools, vocational education and training, and higher education. It includes:

- 'Level of Education', defined as a function of the quality and quantity of learning involved in an educational activity. There are nine broad levels, 15 narrow levels and 64 detailed levels of education.
- 'Field of Education', defined as the subject matter of an educational activity. Fields of education are related to each other through the similarity of subject matter, through the broad purpose for which the education is undertaken, and through the theoretical content which underpins the subject matter. There are 12 broad fields, 71 narrow fields and 356 detailed fields of education.

Level of Current Study - school/non-school

People currently attending school and also studying for a non-school qualification (outside of school studies) will have their current year of schooling and not their non-school qualification level recorded as their current level of study at the data item 26A. Level of education of study in current year. The non-school qualification level will be captured at a separate data item 26B. Level of education of non-school qualification in current year.

Similarly, for people who are attending school and studying VET as part of school studies, the level of VET will not be recorded as their current level of study (26A. Level of education of study in current year). However, the level of VET is recorded separately in the data item 53A. Level of education of VET as part of current school studies.

Level of Highest Education Attainment

Level of highest educational attainment identifies the highest achievement a person has attained in any area of formal study. It is derived from highest year of school completed and level of highest non-school qualification. The derivation process determines which of the 'school' or 'non-school' attainments will be regarded as the highest. Usually the higher ranking attainment is self-evident, but in some cases some secondary education is regarded, for the purposes of obtaining a single measure, as higher than some certificate level attainments.

There are two types of measures used to determine level of highest educational attainment: 'Non-School Priority' and 'Standard Education Priority'.

'Non-School Priority' is where all non-school qualifications are considered of higher ranking than secondary education. For example, a person whose highest year of school completed was Year 12, and whose level of highest non-school qualification was a Certificate I, would

have their level of highest education attainment output as Certificate I.

'Standard Education Priority' is where some school qualifications are ranked higher than some non-school qualifications. For example, years 10, 11 and 12 are ranked higher than Certificates I, II and n.f.d. The Standard Education Priority was designed for the purpose of obtaining a single value for level of highest educational attainment and is not intended to convey any other hierarchy.

The following decision table shows which responses to 'highest year of school completed' and 'level of highest non-school qualification' are regarded as the highest. For example, a person's level of highest educational attainment if they had a Yr 12 Certificate and a Certificate III would be 'Certificate III'. However, if the same person answered 'certificate' to the highest non-school qualification question, their level of highest educational attainment would be output as 'Level not determined'.

Decision table - Level of Highest Educational Attainment

Highest year of school completed	Level of highest non-school qualification								
	Cert IV	Cert III	Cert III & IV n.f.d.	Cert II	Cert I	Cert I & II n.f.d.	Cert n.f.d.	Inadequately described L.n.d	Not Stated
Year 12	Cert IV	Cert III	Cert III & IV n.f.d.	Year 12	Year 12	Year 12	L.n.d.	L.n.d.	N.S.
Year 11	Cert IV	Cert III	Cert III & IV n.f.d.	Year 11	Year 11	Year 11	L.n.d.	L.n.d.	N.S.
Senior Sec. Education n.f.d	Cert IV	Cert III	Cert III & IV n.f.d.	Senior Sec. n.f.d.	Senior Sec. n.f.d.	Senior Sec. n.f.d.	L.n.d.	L.n.d.	N.S.
Year 10	Cert IV	Cert III	Cert III & IV n.f.d.	Year 10	Year 10	Year 10	L.n.d.	L.n.d.	N.S.
Year 9 and below	Cert IV	Cert III	Cert III & IV n.f.d.	Cert II	Cert I	Cert I & II n.f.d.	Cert n.f.d.	L.n.d.	N.S.
Sec. Education n.f.d	Cert IV	Cert III	Cert III & IV n.f.d.	L.n.d.	L.n.d.	L.n.d.	L.n.d.	L.n.d.	N.S.
Junior Sec. Education n.f.d	Cert IV	Cert III	Cert III & IV n.f.d.	L.n.d.	L.n.d.	L.n.d.	L.n.d.	L.n.d.	N.S.
Not stated	Cert IV	Cert III	Cert III & IV n.f.d.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Never attended school	Cert IV	Cert III	Cert III & IV n.f.d.	Cert II	Cert I	Cert I & II n.f.d.	Cert n.f.d.	L.n.d.	N.S.

Cert = Certificate

L.n.d = Level not determined

n.f.d = not further defined

N.S. = Not Stated

Sec. = Secondary

For ease of interpretability, the layout of this table has been modified from [Education Variables, June 2014 \(https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1246.0main+features24june%202014\)](https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1246.0main+features24june%202014), however the ranking of different levels of attainment has not changed.

Engagement in Employment and Education

The term 'engagement' is used when assessing a person's level of participation in employment and education. The following table shows the ways in which people can be

'Fully engaged', 'Partially engaged', or 'Not engaged'.

Employment status	Education status		
	Full-time study	Part-time study	Not studying
Full-time employment	Fully engaged	Fully engaged	Fully engaged
Part-time employment	Fully engaged	Fully engaged	Partially engaged
Unemployed looking for full-time work	Fully engaged	Partially engaged	Not engaged
Unemployed looking for part-time work	Fully engaged	Partially engaged	Not engaged
Not in the labour force	Fully engaged	Partially engaged	Not engaged

Comparing the data

In addition to the changes in scope listed in the 'Scope' section, there are a number of other changes to be aware of with regard to how the SEW has been collected and reported over time.

COVID-19

The COVID-19 pandemic and resulting travel restrictions have impacted the Estimated Resident Population (ERP), through changes in net overseas migration - see the April issue of [Labour Force, Australia. \(statistics/labour/employment-and-unemployment/labour-force-australia/apr-2020\)](#).

The SEW is weighted using the projected ERP for May. In 2020, the projected ERP for May indicated the largest impact of changes in net overseas migration was on younger age groups. As a result, decreases in certain key SEW sub-populations (for example, the number of persons currently studying a non-school qualification) can be seen in the SEW 2020 data, as compared with SEW 2019 data.

It is therefore recommended that proportions, rather than count estimates, are used when comparing the SEW 2020 with previous iterations.

Apprenticeship/traineeship data

Data on apprentices from previous years are not directly comparable to data from 2008 and onward:

- Prior to 2008, only people aged 15-54 years were included in the apprenticeship/traineeship survey questions.
- In 2008, the age scope was extended to include people aged 55-64 years and in 2009, the scope was further extended to include people aged 65-74 years for these questions.
- In 2008, the definition for apprentices and trainees changed from those employed as apprentices/trainees to include only those with a formal contract under the Australian Apprenticeships scheme.

From 2020 onward, industry sector of apprenticeship/traineeship is no longer collected in the SEW.

Other comparability issues

The May 2013 SEW was the first supplementary survey to incorporate an online data collection method, where the option was offered to just over one-quarter of the SEW sample. Since the May 2014 SEW this option has been offered to all respondents. For more information see the article [Transition to Online Collection of the Labour Force Survey](https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/6202.0main+features4Apr%202013) (<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/6202.0main+features4Apr%202013>).

Revisions are made to population benchmarks for the LFS after each five-yearly Census of Population and Housing. The latest revision based on the 2016 Census of Population and Housing has been in use since November 2018. See [Labour Force, Australia](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0>) for more information.

As announced in the June 2012 issue of [Australian Demographic Statistics](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/33970B13F1DF7F56CA257B3B00117AA2?opendocument) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/33970B13F1DF7F56CA257B3B00117AA2?opendocument>), intercensal error between the 2006 and 2011 Censuses was larger than normal due to improved methodologies used in the 2011 Census Post Enumeration Survey. The intercensal error analysis indicated that previous population estimates for the base Census years were over-counted. An indicative estimate of the size of the over-count is that there should have been 240,000 fewer people at June 2006, 130,000 fewer in 2001 and 70,000 fewer in 1996. As a result, Estimated Resident Population estimates have been revised for the last 20 years rather than the usual five. Consequently, estimates of particular populations derived since SEW 2014 may be lower than those published for previous years as the SEW estimates have not been revised. Therefore, comparisons of SEW estimates since 2014 with previous years should not be made. However, for comparable data items, comparison of rates or proportions between years is appropriate.

Since 2014, data in the SEW has been randomly adjusted to avoid the release of confidential statistics. Discrepancies may occur between sums of the component items and totals. See the Confidentiality section under 'How the data is released' for more information on

perturbation.

Comparability with other ABS surveys

Since the SEW is conducted as a supplement to the LFS, data items collected in the LFS are also available in SEW. However, differences may be found in the estimates collected in the LFS and published as part of the SEW, when comparing with estimates published in the May issue of [Labour Force, Australia](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0>).

This is because the scope of the SEW differs slightly to the scope of the LFS and the SEW data are weighted as a separate process to the weighting of LFS data.

From September 2016, the ABS has published education data from the LFS as part of the Labour Force publication [Labour Force, Australia: Detailed](https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release) (<https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release>).

For more information on the differences between SEW and LFS in relation to education data items see the [Fact Sheet: Expanded education data from the Labour Force Survey](https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/6291.0.55.003Main%20Features3Aug%202016?opendocument&tabname=Summary&prodno=6291.0.55.003&issue=Aug%202016&num=&view=) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/6291.0.55.003Main%20Features3Aug%202016?opendocument&tabname=Summary&prodno=6291.0.55.003&issue=Aug%202016&num=&view=>).

Estimates from the SEW may differ from the estimates produced from other ABS collections for several reasons:

- The SEW is a sample survey and its results are subject to sampling error. Results may differ from other sample surveys, which are also subject to sampling error. Users should take account of the measures of error on all published statistics where comparisons are made. Refer to the 'Accuracy' section for more information about how error is measured for the SEW.
- Differences may also exist in the scope and/or coverage of the SEW compared to other surveys. Differences in estimates, when compared to the estimates of other surveys, may result from different reference periods reflecting seasonal variations, non-seasonal events that may have impacted on one period but not another, or because of underlying trends.
- Differences can also occur as a result of differences in the way the data is collected. This is often evident in comparisons of similar data items reported from different ABS collections where, after taking account of definition and scope differences and sampling error, residual differences remain. These may be explained by whether data are collected by an interviewer or self-enumerated by the respondent and whether the data are collected from the person themselves or from a proxy respondent. Differences may also result from the context in which questions are asked, i.e. where in the interview the questions are asked and the nature of preceding questions. The impacts on data of different collection methodologies are difficult to quantify but every effort is made to minimise these.

How the data is released

Datacubes/spreadsheets

A number of data cubes (spreadsheets) containing all tables produced for this publication are available from the 'Data Downloads' section of the main publication. The data cubes present tables of estimates and proportions, and their associated measures of error. A data item list is also available.

TableBuilder

For users who wish to undertake more detailed analysis of the data, the survey microdata will be released through the TableBuilder product (see [Microdata: Education and Work, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6227.0.30.001\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6227.0.30.001) for more detail). Microdata can be used by approved users to produce customised tables and analysis from the survey data. Microdata products are designed to ensure the integrity of the data whilst maintaining the confidentiality of the respondents to the survey.

DataLab

Detailed microdata may also be available on DataLab for users who want to undertake interactive (real time) complex analysis of microdata in the secure ABS environment. For more detail, see [Microdata: Education and Work, Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/6227.0.30.001\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6227.0.30.001).

Custom tables

Customised statistical tables to meet individual requirements can be produced on request. These are subject to confidentiality and sampling variability constraints which may limit what can be provided. Enquiries on the information available and the cost of these services should be made to the National Information and Referral Service (NIRS) on 1300 135 070.

Confidentiality

The Census and Statistics Act 1905 authorises the ABS to collect statistical information, and requires that information is not published in a way that could identify a particular person or organisation. The ABS must make sure that information about individual respondents cannot be derived from published data.

The ABS takes care in the specification of tables to reduce the risk of identifying individuals. Random adjustment of the data is considered the best way to do this. A technique called perturbation randomly adjusts all cell values to prevent identifiable data being exposed. These adjustments result in small introduced random errors, which often result in tables not being 'internally consistent' (that is, interior cells not adding up to the totals). However,

the information value of the table as a whole is not impacted. This technique allows the production of very large/detailed tables valued by users even when they contain cells of very small numbers.

Accuracy

Show all

Reliability of estimates

Two types of error are possible in estimates based on a sample survey:

- non-sampling error
- sampling error

Non-sampling error

Non-sampling error is caused by factors other than those related to sample selection. It is any factor that results in the data values not accurately reflecting the true value of the population.

It can occur at any stage throughout the survey process. Examples include:

- selected people that do not respond (e.g. refusals, non-contact)
- questions being misunderstood
- responses being incorrectly recorded
- errors in coding or processing the survey data

Sampling error

Sampling error is the expected difference that can occur between the published estimates and the value that would have been produced if the whole population had been surveyed. Sampling error is the result of random variation and can be estimated using measures of variance in the data.

Standard error

One measure of sampling error is the standard error (SE). There are about two chances in three that an estimate will differ by less than one SE from the figure that would have been obtained if the whole population had been included. There are about 19 chances in 20 that an estimate will differ by less than two SEs.

Relative standard error

The relative standard error (RSE) is a useful measure of sampling error. It is the SE

expressed as a percentage of the estimate:

$$RSE\% = \left(\frac{SE}{estimate} \right) \times 100$$

Only estimates with RSEs less than 25% are considered reliable for most purposes. Estimates with larger RSEs, between 25% and less than 50% have been included in the publication, but are flagged to indicate they are subject to high SEs. These should be used with caution. Estimates with RSEs of 50% or more have also been flagged and are considered unreliable for most purposes. RSEs for these estimates are not published.

Margin of error for proportions

Another measure of sampling error is the Margin of Error (MOE). This describes the distance from the population value that the sample estimate is likely to be within and is particularly useful to understand the accuracy of proportion estimates.

The MOE is specified at a given level of confidence. Confidence levels typically used are 90%, 95% and 99%. For example, at the 95% confidence level, the MOE indicates that there are about 19 chances in 20 that the estimate will differ by less than the specified MOE from the population value (the figure obtained if the whole population had been enumerated). The 95% MOE is calculated as 1.96 multiplied by the SE:

$$MOE = SE \times 1.96$$

The RSE can also be used to directly calculate a 95% MOE by:

$$MOE(y) \approx \frac{RSE(y) \times y}{100} \times 1.96$$

The MOEs in this publication are calculated at the 95% confidence level. This can easily be converted to a 90% confidence level by multiplying the MOE by:

$$\frac{1.645}{1.96}$$

or to a 99% confidence level by multiplying the MOE by:

$$\frac{2.576}{1.96}$$

Depending on how the estimate is to be used, a MOE of greater than 10% may be considered too large to inform decisions. For example, a proportion of 15% with a MOE of plus or minus 11% would mean the estimate could be anything from 4% to 26%. It is important to consider this range when using the estimates to make assertions about the population.

Confidence Intervals

A confidence interval expresses the sampling error as a range in which the population value is expected to lie at a given level of confidence. A confidence interval is calculated by taking the estimate plus or minus the MOE of that estimate. In other terms, the 95% confidence interval is the estimate +/- the MOE.

Measures of error in this publication

The datacubes report the relative standard error (RSE) for estimates of counts ('000) and the margin of error (MOE) for estimates of proportions (%) (available in the Data downloads section of the main publication).

Time series tables include both RSE of proportion and MOE of proportion. For years prior to 2018, MOE of proportion has been calculated using rounded figures and the result may have slightly less precision than the MOE of proportion calculated for years after 2017.

In the first datacube (Tables 1-20: Education and Work), estimates of proportions with a MOE greater than 10% are annotated to indicate they are subject to high sample variability and particular consideration should be given to the MOE when using these estimates. In addition, estimates with a corresponding standard 95% confidence interval that includes 0% or 100% are annotated to indicate they are usually considered unreliable for most purposes.

Calculating measures of error

Proportions or percentages formed from the ratio of two count estimates are also subject to sampling errors. The size of the error depends on the accuracy of both the numerator and the denominator. A formula to approximate the RSE of a proportion is given below. This formula is only valid when the numerator (x) is a subset of the denominator (y):

$$RSE\left(\frac{x}{y}\right) \approx \sqrt{[RSE(x)]^2 - [RSE(y)]^2}$$

When calculating measures of error, it may be useful to convert RSE or MOE to SE. This allows the use of standard formulas involving the SE. The SE can be obtained from RSE or MOE using the following formulas:

$$SE = \frac{RSE\% \times estimate}{100}$$

$$SE = \frac{MOE}{1.96}$$

Comparison of estimates

The difference between two survey estimates (counts or percentages) can also be calculated from published estimates. Such an estimate is also subject to sampling error. The sampling error of the difference between two estimates depends on their SEs and the relationship (correlation) between them. An approximate SE of the difference between two estimates ($x - y$) may be calculated by the following formula:

$$SE(x - y) \approx \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

While this formula will only be exact for differences between separate and uncorrelated characteristics or sub populations, it provides a good approximation for the differences likely to be of interest in this publication.

Significance testing

When comparing estimates between surveys or between populations within a survey, it is useful to determine whether apparent differences are 'real' differences or simply the product of differences between the survey samples.

One way to examine this is to determine whether the difference between the estimates is statistically significant. This is done by calculating the standard error of the difference between two estimates (x and y) and using that to calculate the test statistic using the formula below:

$$\frac{|x - y|}{SE(x - y)}$$

where

$$SE(y) \approx \frac{RSE(y) \times y}{100}$$

If the value of the statistic is greater than 1.96, we can say there is good evidence of a statistically significant difference at 95% confidence levels between the two populations with respect to that characteristic. Otherwise, it cannot be stated with confidence that there is a real difference between the populations.

Glossary

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Apprentice

An apprentice is a person who has entered into a legal contract (called a training agreement or contract of training) with an employer, to serve a period of training for the purpose of attaining tradesperson status in a recognised trade. In this survey, persons who are apprentices and trainees are identified by their answer to a question specifically pertaining to a contract under the Australian Apprenticeships scheme. Students undertaking school based apprenticeships are not included.

Balance of state/territory

Comprises the balance of each state/territory not included in Capital City. See [Australian Statistical Geography Standard \(ASGS\): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2016 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.001\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.001).

Capital city

Refers to Greater Capital City Statistical Areas (GCCSA) as defined by the ASGS. The GCCSAs represent the socio-economic extent of each of the eight State and Territory capital cities. The whole of the Australian Capital Territory (ACT) is included in the GCCSA.

Certificate n.f.d. (Certificate not further defined)

Survey responses are coded to Certificate not further defined (n.f.d.) when there is not enough information to code them to Certificate I, II, III or IV in the [Australian Standard Classification of Education \(ASCED\), 2001 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0). Level of education classification.

Completed a qualification

A person having 'completed' a qualification means they have successfully passed all of the requirements for the qualification and excludes people who have stopped studying without gaining the qualification.

Country of birth

Country of birth has been classified according to the [Standard Australian Classification of Countries \(SACC\), Second Edition \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/C07748560EAB6540CA2578F10014B87E?opendocument\)](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/C07748560EAB6540CA2578F10014B87E?opendocument). 'Born in Australia' refers to all persons born in Australia or any of its external territories. 'Born overseas' refers to all persons not 'born in Australia', including those born at sea and persons whose country of birth is unknown.

Currently enrolled in study

Enrolled in a course of formal study for a certificate, diploma, degree or any other educational qualification, in May of the survey year.

Dependent child

Persons aged less than 15 years who have a parent/guardian in the household.

Educational institution

Any institution whose primary role is education. Included are schools, higher education establishments, colleges of technical and further education and public and private colleges.

Employed

Persons who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
 - away from work for less than four weeks up to the end of the reference week; or
 - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
 - away from work as a standard work or shift arrangement; or
 - on strike or locked out; or
 - on workers' compensation and expected to return to their job; or
- were employers or own account workers who had a job, business or farm, but were not at work.

Employed full-time

Employed persons who usually worked 35 hours or more a week (in all jobs) and those who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.

Employed part-time

Employed persons who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work in the reference week.

Engagement

The term engagement is used when assessing a persons level of participation in employment and education. People can be Fully engaged, Partially engaged, or Not

engaged. For more information, see the 'Key education concepts' section.

Enrolled

Refers to persons registered for a course of formal study in the particular reference period (e.g. survey month, or previous calendar year). This includes online or distance education and excludes any course of study that doesn't result in a formal educational qualification.

Enrolled full-time

Includes persons enrolled in a course of study that is considered full-time by their institution.

Enrolled part-time

Includes persons enrolled in a course of study that is not considered full-time by their institution. All apprentices and trainees are considered to be enrolled in part-time study.

Field not determined

Field not determined includes inadequately described responses or where no responses were given.

Field of highest educational attainment

The subject matter of the educational activity for the highest achievement a person has attained in any area of formal study.

Field of trade

Refers to the occupation of an apprentice or trainee and is classified according to the [Australian and New Zealand Standard Classification of Occupations \(ANZSCO\), 2013, Version 1.2. \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1220.0Main+Features12013,%20Version%201.2?OpenDocument\)](https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1220.0Main+Features12013,%20Version%201.2?OpenDocument)

Formal study

Any study being undertaken that will lead to a recognised qualification, issued by a relevant approved body, in recognition that a person has achieved learning outcomes or competencies relevant to identified individual, professional, industry or community needs. This includes study for a school qualification. In this survey, if the respondent was still attending school their level of study was recorded as their current year of schooling. If the respondent had left school and was enrolled in formal study they were asked the level of the qualification.

Fully engaged

People who were employed full-time and/or in full-time study, or employed part-time combined with part-time study.

Higher education institution or organisation

An Australian institution providing higher education courses, e.g. universities; colleges of advanced education; institutes of advanced education; institutes of higher education; institutes of tertiary education; agricultural colleges; and some institutes of technology, and the equivalent institutions overseas.

Industry

Industry data is classified according to the [Australian and New Zealand Standard Industrial Classification \(ANZSIC\), 2006 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0).

Level of highest educational attainment

Level of highest educational attainment identifies the highest achievement a person has attained in any area of formal study. It is not a measurement of the relative importance of different fields of study, but a ranking of qualifications and other educational attainments regardless of the particular area of study or the type of institution in which the study was undertaken. For more information regarding how Level of highest educational attainment is derived see the Decision Table: Level of Highest Educational Attainment in the 'Key Education Concepts' section. It is categorised according to the [Australian Standard Classification of Education \(ASCED\), 2001 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0) Level of education classification. Level of education is also classified according to the International Standard Classification of Education (ISCED), 2011.

Level of highest educational attainment (non-school priority)

A person's level of highest educational attainment (non-school priority) is their highest non-school qualification where they have completed one. For persons who have not completed a non-school qualification their level of highest educational attainment (non-school priority) is the highest year of school they have completed. It is categorised according to the [Australian Standard Classification of Education \(ASCED\), 2001 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0) Level of education classification.

Level of highest non-school qualification

A person's level of highest non-school qualification is the highest qualification a person has attained in any area of formal study other than school study. It is categorised according to the [Australian Standard Classification of Education \(ASCED\), 2001 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0) Level of education classification.

Level not determined

Level not determined includes inadequately described responses or where no responses were given.

Main field of education

The main subject matter of the study undertaken by a person in completing an educational activity. Where a qualification covered multiple fields (e.g. a double degree) the 'main' field is the one considered most important. It is categorised according to the [Australian Standard Classification of Education \(ASCED\), 2001 \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1272.0). Field of education classification. Main field of education is also classified according to the International Standard Classification of Education (ISCED), 2011.

Non-school qualification

Non-school qualifications are awarded for educational attainments other than those of pre-primary, primary or secondary education. They include qualifications at the Postgraduate Degree level, Master Degree level, Graduate Diploma and Graduate Certificate level, Bachelor Degree level, Advanced Diploma and Diploma level, and Certificates I, II, III and IV levels. School level qualifications obtained through institutions other than primary and secondary schools (such as TAFE) are not included. Non-school qualifications may be attained concurrently with school qualifications.

Not Engaged

People who were not employed and not studying.

Not in labour force

Persons who were not in the categories 'employed' or 'unemployed'.

Occupation

Occupation data is classified according to the [Australian and New Zealand Standard Classification of Occupations \(ANZSCO\), 2013, Version 1.2. \(https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1220.0Main+Features12013,%20Version%201.2?OpenDocument\)](https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1220.0Main+Features12013,%20Version%201.2?OpenDocument).

Partially Engaged

People who were employed part-time and not studying, or in part-time study and not employed.

Qualification

Formal certification, issued by a relevant approved body, in recognition that a person has achieved an appropriate level of learning outcomes or competencies relevant to identified individual, professional, industry or community needs. Statements of attainment awarded for partial completion of a course of study at a particular level are excluded.

Remoteness

The Australian Statistical Geography Standard (ASGS) was used to define remoteness. The Remoteness Structure is described in detail in the publication [Australian Statistical Geography Standard \(ASGS\): Volume 5 - Remoteness Structure, July 2016](https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/D964E42C5DF5B6D4CA257B03000D7ECB?opendocument) (<https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/D964E42C5DF5B6D4CA257B03000D7ECB?opendocument>).

Reference week

The week preceding the week in which the interview was conducted.

School-based apprenticeship or traineeship

School-based apprenticeships or traineeships are undertaken part-time while at school and combine paid employment as an apprentice or trainee, vocational training and senior secondary school studies. This is a different population to those people who are undertaking apprenticeships or traineeships through the Australian Apprenticeships scheme which are considered separately.

School leavers

People aged 15-24 years who attended school in the previous year, but were not attending school in May of the survey year. Note that these people may have been studying a school year level at a non-school institution (e.g. studying Year 12 at TAFE). In this survey, school leavers are grouped by the highest level of school completed: year 12 or equivalent, and year 11 or below.

School study

School study is participation in primary or secondary level education, regardless of the institution or location where the study is or was undertaken. It therefore includes such study undertaken in a Technical and Further Education (TAFE) or other institution.

Science, Technology, Engineering and Mathematics (STEM)

In this publication, the ABS has described STEM fields of education according to the definition in the [Report on Australia's STEM Workforce](https://www.chiefscientist.gov.au/2016/03/report-australias-stem-workforce/) (<https://www.chiefscientist.gov.au/2016/03/report-australias-stem-workforce/>) by the Office of the Chief Scientist. This includes the Australian Standard Classification of Education (ASCED) fields of education:

- 01. Natural and Physical Sciences (including 0101. Mathematical Sciences)
- 02. Information Technology
- 03. Engineering and Related Technologies
- 05. Agriculture, Environment and Related Studies

This publication also compares these fields with the fields 04. Architecture and Building and 06. Health; which are described as STEM-related fields and are sometimes included in broader definitions of STEM.

Socio-Economic Status (SEIFA-IRSD)

This is one of four Socio-Economic Indexes for Areas (SEIFAs) compiled by the ABS following each Census of Population and Housing, from various characteristics of persons resident in particular areas. The Index of Relative Socio-Economic Disadvantage summarises attributes such as income, educational attainment, unemployment and occupation skill levels. The index refers to the area (the Statistical Area Level 1) in which a person lives, not to the socio-economic situation of the particular individual. The index ranks areas on a continuum from most disadvantaged to least disadvantaged. A low score on the index (i.e. lowest quintile or decile) indicates a high proportion of relatively disadvantaged people in an area. Such areas include many households with low income, people with no qualifications and many people in low skill occupations. It should be noted that it cannot be concluded that an area with a very high score has a large proportion of relatively advantaged ('well off') people, as there are no variables in the index to indicate this. It can only be concluded that such an area has a relatively low incidence of disadvantage. The indexes used in this publication were those compiled following the 2016 Census. For further information about the indexes, see [Census of Population and Housing: Socio-Economic Indexes for Areas \(SEIFA\), Australia, 2016](https://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001>).

Technical and Further Education (TAFE)

Refers to a Technical and further education institution; a registered training organisation owned and operated by a state government, or public provider of training. In Victoria, TAFE may be interpreted as 'Training and Further Education'. TAFE institutions focus on teaching specific skills for a particular workplace.

Trainee

A trainee is a person who has entered into a legal contract (called a training agreement or contract of training) with an employer, to serve a period of training in a vocational area (e.g. office administration, information technology, hospitality). In this survey, persons who are apprentices and trainees are identified by their answer to a question specifically pertaining to a contract under the Australian Apprenticeships scheme.

Underemployed workers

Employed persons aged 15 years and over who want, and are available for, more hours of work than they currently have. They comprise:

- persons employed part-time who want to work more hours and are available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; or
- persons employed full-time who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people wanted to work full-time in the reference week and would have been available to do so.

Unemployed

Persons who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

Vocational Education and Training (VET)

VET relates to education and training that aims to equip people with knowledge, skills and/or competences required in particular occupations or, more broadly, on the labour market. VET is a component of apprenticeships or traineeships, including those that are school-based. However, VET can be undertaken without also undertaking an apprenticeship or traineeship.

Abbreviations

Show all

ABS	Australian Bureau of Statistics
ABSCQ	Australian Bureau of Statistics Classification of Qualifications
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASCED	Australian Standard Classification of Education
ASGS	Australian Statistical Geography Standard
ERP	Estimated Resident Population
GCCSA	Greater Capital City Statistical Areas

IRSD	Index of Relative Socio-Economic Disadvantage
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISIC	International Standard Industrial Classification of All Economic Activities
LFS	Labour Force Survey
MOE	margin of error
MPS	Monthly Population Survey
n.f.d.	not further defined
RSE	relative standard error
SA1	Statistical Area Level 1
SA2	Statistical Area Level 2
SA4	Statistical Area Level 4
SACC	Standard Australian Classification of Countries
SE	standard error
SEIFA	Socio-Economic Indexes for Areas
SEW	Survey of Education and Work
STEM	Science, Technology, Engineering and Mathematics
TAFE	Technical and Further Education
UR	Usual Resident
VET	Vocational Education and Training